



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,949	08/26/2003	Kurt Bollacker	NG(MS)-6692	3724
26294	7590	07/21/2006	EXAMINER	
TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 1300 EAST NINTH STREET, SUITE 1700 CLEVEVLAND, OH 44114			BROWN JR, NATHAN H	
			ART UNIT	PAPER NUMBER
			2121	

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/647,949	Applicant(s) BOLLACKER ET AL.	
	Examiner Nathan H. Brown, Jr.	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-16, 18-22, 29-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 10, 13-16, 20, 22, 24, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8, 9, 11, 12, 17-19, 21, 23, 25, 28, and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

Examiner's Detailed Office Action

1. This Office is responsive to the communication for application 10/647,949, filed April 24, 2006.
2. Claims 1-10, 12-16, 18-29, and 29-34 have been examined and it is noted that: claims 1, 13, 14, 16, 18, 19, 22, and 26 have been amended; claims 11, 17, and 28 have been cancelled; claims 2-5, 6-10, 12, 15, 20, 21, 23-25, 27, and 29 remain in their original form; and new claims 30-34 have been added. Any decision with regards to the patentability of claims 30-34 is held in abeyance pending applicant's response to the enclosed letter of Tim van Gelder.
3. After the first office action, claims 1-3, 6, 7, 10, 13-16, 20, 22, 24, 26, and 27 stand rejected; claims 13, 14, and 26 are objected to for minor informalities; and claims 4, 5, 8, 9, 11, 12, 17-19, 21, 23, 25, 28, and 29 are objected to as being dependents of rejected base claims.

Claims 1, 10, 12, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by *Chryssafidou*, "DIALECTIC: Enhancing essay writing skills with computer supported formulation of argumentation", 1999.

Regarding claim 1. *Chryssafidou* teaches a system (*see* Abstract) for editing and displaying a structured argument (*see* p. 10, Fig. 6), having a plurality of associated parameters (*see* p. 10, Fig. 6, Examiner interprets: *claim, argument, support, refute, conjunction, and opposed claims*

Art Unit: 2121

(show in the screen shot key) to be a plurality of associated parameters of a structured argument.), the system comprising: a user interface that graphically displays the plurality of parameters at a user accessible display and receives input from a user defining the value of a selected parameter (*see p. 10, Fig. 6*); and a computational engine that alters the selected parameter to the defined value, updates the plurality of parameters according to the defined value of the selected parameter, and provides the altered parameters to the user interface, such that the display is updated in real time to reflect the user input (*see Abstract, Examiner interprets DIALECTIC to be the computational engine.*).

Regarding claim 10. *Chryssafidou* teaches the system of claim 1, being implemented as computer executable instructions on a computer readable medium (*see Abstract*).

Regarding claim 12. *Chryssafidou* teaches the system of claim 1, the plurality of parameters defining an argument model (*see p. 6, "The model of pragma-dialectic approach to argumentation suggests heuristic functions indicating what moves⁶ should be undertaken in resolving a difference of opinion. These are central in the research that underpins the design of Dialectic."* and *see p. 10, Fig. 6, Examiner interprets: claim, argument, support, refute, conjunction, and opposed claims (show in the screen shot key) to be a plurality of associated parameters of an argument model.*).

Regarding claim 26. *Chryssafidou* teaches a system (*see above*) for editing and displaying a structured argument (*see above*), comprising a plurality of parameters (*see above*), comprising:

Art Unit: 2121

means for graphically displaying the plurality of parameters, each having an associated value (*see above*); means for receiving input from a user, the input comprising a request to modify respective values of at least one selected parameter from the plurality of parameters (*see p. 10, Fig. 6, “Tools palette: This is the main feature of the drawing area where the user designs the argumentation using text boxes, graphic arrows and links.”*); means for modifying the values of the at least one selected parameter and at least one other parameter from the plurality of parameters (*see p. 10, Fig. 6, Examiner asserts that Fig. 6 shows the palette of modifiable objects representing the parameters of the argument.*); and means for updating the modified parameter values at the means for displaying in real time in response to the user input (*see p. 10, Fig. 6, “Tools palette: ...” and “The system feedback: The system provides feedback on the structure of the arguments –not the content of them- only by request.”, Examiner asserts that the system places the feedback in the commenting area.*).

Claims 2-3, 6-7, 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Chryssafidou* in view of *SYSTAT*, “TableCurve 2D GENERAL FEATURES”, 2002.

Regarding claim 2. *Chryssafidou* teaches the system of claim 1. *Chryssafidou* does not teach the plurality of parameters comprising respective confidence values for a plurality of hypotheses. *SYSTAT* does teach the plurality of parameters comprising respective confidence values for a plurality of hypotheses (*see §Data Input, “Up to 65,536 points in data table”, Examiner asserts a data table is capable of storing a plurality of parameters comprising respective confidence values for a plurality of hypotheses where the plurality of parameters comprising respective*

Art Unit: 2121

confidence values for a plurality of a hypothesis are stored in a row.)). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine Chryssafidou and SYSTAT to visualize their data, increase their analytical power with statistics, and completely automate their analysis (see SYSTAT, "Overview").

Regarding claim 3. *Chryssafidou* teaches the system of claim 1. *Chryssafidou* does not teach at least one confidence value being displayed to a user via a first, qualitative indicator and a second, quantitative indicator. SYSTAT does teach at least one confidence value being displayed to a user via a first, qualitative indicator and a second, quantitative indicator (see §Data Input, "Up to 65,536 points in data table", *Examiner asserts a data table can support at least one confidence value being displayed to a user via a first, qualitative indicator and a second, quantitative indicator where the qualitative indicator is a character string in a character in the first cell of a column (e.g., attribute name) and the quantitative indicator is a numeric value in numeric cells below the first cell in a column (e.g., attribute data).). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine Chryssafidou and SYSTAT to visualize their data, increase their analytical power with statistics, and completely automate their analysis (see SYSTAT, "Overview").*

Regarding claim 6. *Chryssafidou* teaches the system of claim 1. *Chryssafidou* does not teach the plurality of parameters comprising a plurality of influence parameters, the influence parameters representing the degree of logical relatedness between respective associated first and second

Art Unit: 2121

hypotheses. SYSTAT does teach the plurality of parameters comprising a plurality of influence parameters, the influence parameters representing the degree of logical relatedness between respective associated first and second hypotheses (*see* §Data Input, “Up to 65,536 points in data table”, *Examiner takes Official Notice that a data table can represent the plurality of parameters comprising a plurality of influence parameters, the influence parameters representing the degree of logical relatedness between respective associated first and second hypotheses by forming a matrix of the Cartesian product of hypotheses where each cell, F_{ij} , represents the influence of hypothesis j on hypothesis i . As evidence of this fact, Examiner cites page 425 of Russell and Norvig, “Artificial Intelligence: A Modern Approach (2nd Edition)”, 2002, wherein the figure on this page shows a data table with hypotheses and a matrix of parameters of degree of logical relatedness.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Chryssafidou* and SYSTAT to visualize their data, increase their analytical power with statistics, and completely automate their analysis (*see* SYSTAT, “Overview”).

Regarding claim 7. *Chryssafidou* teaches the system of claim 1. *Chryssafidou* does not teach at least one influence parameter being displayed to a user via a first, qualitative indicator and a second, quantitative indicator. SYSTAT does teach at least one influence parameter being displayed to a user via a first, qualitative indicator and a second, quantitative indicator (*see* above, *Examiner takes Official Notice (see above) that the qualitative indicators are formed by adding an extra row and column to the matrix described above where the row and column contain character values that indicate the hypotheses associated with the quantitative influence*

Art Unit: 2121

parameter, F_{ij}). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Chryssafidou* and *SYSTAT* to visualize their data, increase their analytical power with statistics, and completely automate their analysis (*see SYSTAT, "Overview"*).

Regarding claim 27. *Chryssafidou* teaches the system of claim 26. *Chryssafidou* teaches the means for displaying comprising means for qualitatively displaying the value of the plurality of parameters (*see p. 5, Figs. 1-3, Examiner interprets "supports", "refutes", "standpoint", and "argument" as a plurality of parameters.*). *Chryssafidou* does not teach the means for quantitatively displaying the value of the plurality of parameters. However, *SYSTAT* does teach the means for quantitatively displaying the value of the plurality of parameters (*see §Data Input, "Up to 65,536 points in data table", Examiner interprets "points" to be a plurality of quantitative parameter values.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Chryssafidou* and *SYSTAT* to visualize their data, increase their analytical power with statistics, and completely automate their analysis (*see SYSTAT, "Overview"*).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Chryssafidou* in view of *Murphy*, "A Brief Introduction to Graphical Models and Bayesian Networks", 1998.

Regarding claim 13. *Chryssafidou* teaches the system of claim 12. However, *Chryssafidou* does not teach the argument model represented by a Bayesian belief network. *Murphy* teaches the argument model as a Bayesian belief network (*see p. 2, §Representation, "Examiner interprets*

the random variables to be hypotheses.”). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Chryssafidou and Murphy* in order to provide reasoning under uncertainty.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Chryssafidou* in view of *Wang*, “A Prototype Belief Network-based Expert System Shell”, 1990.

Regarding claim 14. *Chryssafidou* teaches the system of claim 12. However, *Chryssafidou* does not teach the argument model represented by a Dempster-Shafer belief network. *Wang*, however, does teach the argument model as a Dempster-Shafer belief network (*see* p. 510, §2. BELFUN System Architecture and Knowledge Base Construction, “BELFUN incorporates the Dempster-Shafer theory of belief functions, belief propagation schemes...”). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Chryssafidou and Wang* in order to provide reasoning under uncertainty.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Chryssafidou* in view of *Thompson et al.*, “*AnnotatedHyperIbisDtd (DRAFT)*”, 2003.

Regarding claim 15. *Chryssafidou* teaches the system of claim 12. However, *Chryssafidou* does not teach the use of an Extensible Mark-up Language (XML) schema. *Thompson et al.* do teach the use of an Extensible Mark-up Language (XML) (*see* §HyperIBIS Examples and §Markup declarations for HyperIBIS DTD family). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Chryssafidou and Thompson et*

Art Unit: 2121

al. to use a DTD which enables the results of reasoning about evidence to propagate through a network where the network may take any form from a small intranet-based collaboratory to the entire Internet.

Claims 16, 20, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *HALLoGRAM*, “PrecisionTree”, 2000 in view of *SYSTAT*.

Regarding claim 16. *HALLoGRAM* teaches a method for determining the sensitivity of a hypothesis of interest to a parameter within an argument model (*see* §Sensitivity Analysis, *Examiner interprets a decision to be a hypothesis.*), comprising: providing a continuous mechanism for a user to modify the parameter, such that the user can make multiple modifications to the parameter in rapid sequence (*see* §Sensitivity Analysis, “PrecisionTree modifies the values of the sensitivity variables you specify and records the changes in the expected value of the tree.”). *HALLoGRAM* does not teach updating a confidence value associated with the hypothesis of interest in response to the modification of the parameter or altering a display of the confidence value of the hypothesis of interest in real time to match the updated confidence value in response to each modification of the parameter. However, *SYSTAT* does teach updating a confidence value associated with the hypothesis of interest in response to the modification of the parameter (*see* §Data Management, “Spreadsheet-like data editing with optional graphing of data as they are entered”, *Examiner asserts that modifying the parameter value associated with a confidence value of a hypothesis of interest updates the confidence value and all references to it.*); and altering a display of the confidence value of the hypothesis of

Art Unit: 2121

interest in real time to match the updated confidence value in response to each modification of the parameter (*see* §Data Management, “Spreadsheet-like data editing with optional graphing of data as they are entered”, *Examiner asserts that the spreadsheet alters a display of the confidence value of the hypothesis of interest in real time (by iteration) to match the updated confidence value in response to each modification of the parameter.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *HALLoGRAM* and *SYSTAT* to obtain the means to perform decision analysis in addition to exploratory data analysis.

Regarding claim 20. *HALLoGRAM* teaches the method of claim 16. *HALLoGRAM* does not teach the parameter comprising a confidence value associated with a contributing hypothesis within the structured argument. *SYSTAT* does teach the parameter comprising a confidence value associated with a contributing hypothesis within the structured argument (*see* §Data Input, “Up to 65,536 points in data table”, *Examiner asserts a data table may represent the parameters comprising a confidence value associated with a contributing hypothesis within the structured argument where each row represents a confidence value and each column represents a parameter comprising the confidence value.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *HALLoGRAM* and *SYSTAT* to perform decision analysis in addition to exploratory data analysis.

Regarding claim 22. *HALLoGRAM* teaches the method of claim 16. *HALLoGRAM* does not teach the structured hypothesis comprising at least two contributing hypotheses, the parameter

comprising an influence value associated with a logical relationship between the two contributing hypotheses. *SYSTAT* does teach the parameter comprising a confidence value associated with a contributing hypothesis within the structured argument (see §Data Input, “Up to 65,536 points in data table”, *Examiner asserts a data table may represent the structured hypothesis comprising at least two contributing hypotheses, the parameter comprising an influence value associated with a logical relationship between the two contributing hypotheses by forming a matrix of the Cartesian product of hypotheses where each cell, F_{ij} , represents the influence of hypothesis j on hypothesis i and each row contains a least two entries.*). It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *HALLoGRAM* and *SYSTAT* to perform decision analysis in addition to exploratory data analysis.

Regarding claim 24 *HALLoGRAM* teaches a method computer readable medium having computer executable instructions for performing the method of claim 16 (see §Overview, “PrecisionTree is the Decision Analysis Add-In for Microsoft Excel.”, *Examiner interprets an Add-In to be a computer readable medium (i.e., file).*).

4. The Office directs the Applicants’ attention to the attached letter and list of “Allowable” claims and requests responses to all points raised therein.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Knight
Supervisory Patent Examiner
Tech Center 2100

Nathan H. Brown, Jr.
July 18, 2006